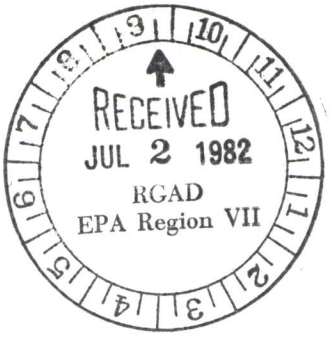
Bob S.

Litton ADVANCED CIRCUITRY

P. O. Box 2847, Commercial Station, Springfield, Mo. 65803 417 862-0751

June 30, 1982



Mr. Fred Lafser
Director, Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102

Dear Mr. Lafser:

Please find enclosed out latest closure plan in accordance with Section 10 CSR25-7.011, RsMo; Section 40 CFR265 Subpart G, Federal Register; and your order No. HW-82-002 dated June 17, 1982. The enclosed plan answers all questions posed by Federal and State correspondence to Advanced Circuitry. It is hoped that this closure plan meets with your approval so that no unnecessary delays occur with our projected August 1st starting date.

Advanced Circuitry has shown in the past our willingness to cooperate with the reasonable request submitted by the Missouri Department of Natural Resources. We fully expect this cooperation to continue thru our closure.

Sincerely,

David Edwards

David Edwards
Facilities Manager

DE/bs

Enclosures

CC: Mr. Gerald P. Lucey, Litton
Mr. John J. Franke, Regional Administrator
EPA, Region VII
Mr. Robert Schreiber, Director, Division
of Environmental Quality
Mr. Burt McCoullough, D.N.R.

Subpart G - Closure and Post-Closure

265.111 Closure and Post-Closure

A. Owner shall close facility in a manner to minimize all hazards.

265.112 Closure Plan

A. In March, 1982, the city sewer system was available for hookup and Litton began its use for effluent discharge. At that time, Litton discontinued discharging effluent waters to "A" pond. Due to the DNR Eminent Hazardous Action of March, 1982, the waste water in "A" pond was removed. We will begin closure on approximately August 1, 1982.

B. All tests generated at this time, show the sludge to pass the EPA EP toxic testing levels thereby, rendering it non-hazardous. Due to the expedient manner in which the state has required closure, Litton feels it has been given insufficient time to petition for delisting. To meet the deadline, Litton will treat the sludge as it if were hazardous.

C. Based on calculations, approximately 1800 yd^3 of sludge will have accumulated and this sludge will be reduced to approximately 400 yd^3 by centrification.

The plan submitted by our contractor, O.H. Materials Company, is included in this report. The dewatered sludge will be hauled by Keith Batkins Trucking, which is a licensed hazardous waste hauler, to Wright City Missouri. The disposal site is operated by Bob's Home Service.

D. The soil beneath Pond "A" will be removed to the level in which no more visable contaminants are seen. Copper contamination exhibits a characteristic blue coloration.

E. After the sludge is removed, random grab samples of the soil will be taken and analyzed on our atomic absorption unit.

F. Any accumulation of dewatered sludge will be stored within the confines of "A" pond. The only need of accumulation is due to scheduling delays between shipments of our sludge. No sludge will be stored for longer than 90 days.

G. Actual closure will start August 1, 1982, and will take approximately 21 days of volume reduction, excavation and loading time. Final closure will consist of grading over and seeding of the site.

H. Litton reserves the right to alter the plan and permit pending additional information.

265.113 Time Allowed for Closure

A. Closure is to take place within 180 days of last receipt of wastes.

B. We may apply to Regional Administrator for longer closure time.

265.114 Disposal or Decontamination of Equipment

A. All the equipment and structures used in the closure shall be properly disposed of, or decontaminated by high pressure water spray applied within the confines of "A" pond. This is to be done by O.H. Material.

265.115 Certification of Closure

A. Upon closure, Litton shall submit to the Regional Director certification thereof signed by the operator and an independent professional registered engineer.

B. Litton will make every effort to comply with the September 15, 1982 closure and certification date. We cannot be responsible for delays caused by weather or subcontractors.

File
Hazardous
Waste
Manage

O. H. Materials Co.

Emergency Response and Environmental Restoration

Regional Offices:
Ottawa, Illinois
Atlanta, Georgia
Washington, D.C.

P.O. Box 551
Findlay, Ohio 45840
Telephone (419) 423-3526
1-800-537-9540

January 26, 1982

Mr. George Copeland
Facilities Manager
Litton Advanced Circuitry
4811 West Kearney
Springfield, MO 65803

Dear Mr. Copeland:

For this project, we recommend using our Sharples P 5000 Horizontal Super-D Canter as the most cost-effective method of disposing of the pond's sludge contents.

Laboratory tests on samples provided by Litton indicated that the original material containing 10% solids (1 part solid - 9 parts water) could be readily centrifuged. Centrifugation resulted in products containing 50% solids (1 part solid - 1 part water) and a clear supernatent liquid (8 parts water).

Based on past experience, this 50% solid material plus 25% fly ash, or lime, should easily meet landfill requirements for a solid material.

Based on your estimate of 1800 cubic yards, we would pump sludge from the bottom of the lagoon at 80 gallons per minute. We would operate 12 hours per day, with the centrifuge on line 10 hours per day, and complete the pond pump out in about 12 days.

Assuming no further treatment of the supernatent liquid is called for, the liquid would be sent to sewer. The solids would be mixed with 25% fly ash, by weight, (or lime) and loaded into a lined and sealed truck, provided by others, for transportation to the disposal site. All of the above would be done by personnel wearing suitable protective equipment.

This project would take an additional five days for mobilization set up, decontamination, and demobilization, of equipment.

O. H. Materials Co.
Emergency Response and Environmental Restoration

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Ottawa, Illinois
Atlanta, Georgia
Washington, D.C.

P.O. Box 551
Findlay, Ohio 45840
Telephone (419) 423-3526
1-800-537-9540

April 5, 1982

Mr. George Copeland
Litton Industries
4811 W. Kearney
Springfield, MO 65803

Dear Mr. Copeland:

In response to your questions, OHM is pleased to provide the following information to describe the normal steps for centrifugation and disposal of waste:

1.0 Characterization and Treatment of Waste

1.1 Determine applicability of centrifuge to concentrate waste (laboratory and pilot plant testing).

1.2 Contact landfills to determine acceptable form of waste for disposal (percentage of moisture limits, etc.)

1.3 Assess water quality discharge criteria and determine disposition of liquid waste.

1.3.1 Design additional water treatment, if required.

2.0 Site Assessment

2.1 Survey available work areas and plan equipment locations and traffic flow.

2.2 Determine most cost effective power supply.

2.3 Plan for secure holding of concentrated waste prior to disposal.

2.4 Finalize treatment and disposition of centrifuge water.

2.4.1 Determine analytical and sampling requirements.

2.5 Finalize methods of extracting sludge from lagoon (or other) to centrifuge.

2.6 Survey available services and/or equipment from customer and interface.

3.0 Mobilization and Setup

3.1 Mobilize equipment to customer's site.

3.2 Set up equipment according to previous planning. The following process steps outlined in Figure 1 are included as required.

3.3 Set up waste holding areas, if needed.

3.4 Finalize disposal arrangements.

3.5 Set up analytical and sampling programs

4.0 Operation

4.1 After optimizing all process steps, start continuous operation.

4.2 Solid waste to be removed from site as soon as possible to minimize storage.

4.3 Sample and analyze water from centrifuge as required.

4.4 Final scraping of lagoon with equipment as required.

5.0 Teardown and Cleanup

5.1 Remove equipment from customer's site.

5.2 Restore site as required.

Please contact me or John Copus if additional information is needed.

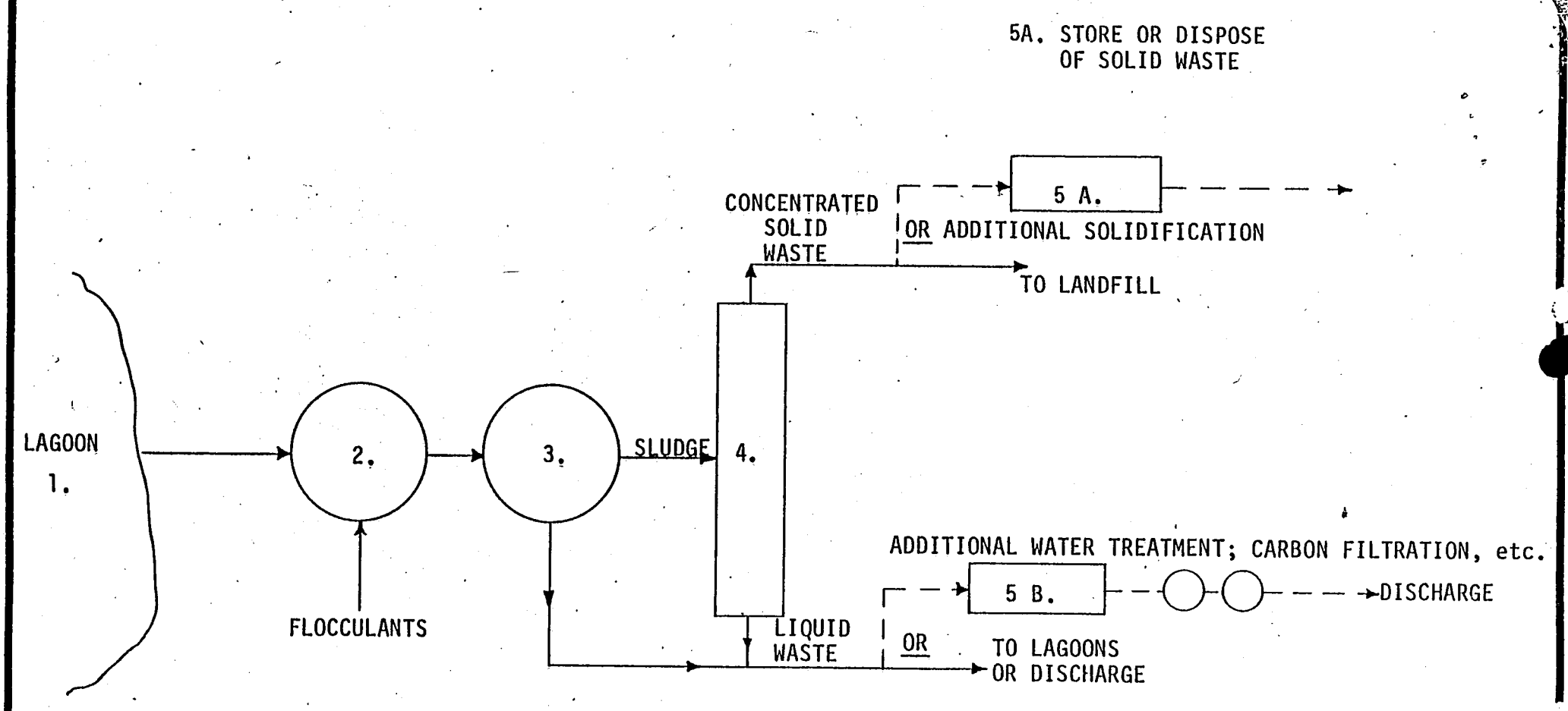
Very truly yours,

Robert J. Ohneck

Robert J. Ohneck
Director, Project Engineering

RJO:sg

cc: #100.261



1. PUMP SLUDGE FROM LAGOON
2. MIXING
   ADJUST CONSISTENCY
   ADD FLOCCULANTS
3. SETTLING
4. MOBILE CENTRIFUGE
5B. PROCESS OR DISCHARGE OF LIQUID WASTE

— — — OPTIONAL PROCESSES AS REQUIRED

SCALE	DRAWING	NO.	DATE	REVISION	BY
NONE	MHB				
DATE 4-05-82	CHECKED				
SHEET__OF__	APPROVED PJO				

PROCESS FLOW SCHEMATIC
MOBILE CENTRIFUGATION

O. H. MATERIALS CO.
EMERGENCY RESPONSE AND ENVIRONMENTAL RESTORATION
BOX 551 FINDLAY, OHIO
419-423-3526 800/537-9540

PROJECT	DRAWING	REVISION